



STATE OF WASHINGTON  
**DEPARTMENT OF CORRECTIONS**  
**OFFICE OF THE SECRETARY**

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October 22, 2004

The Department of Corrections is proposing to install a new marine electrical cable to serve the McNeil Island Corrections Center and other state facilities on McNeil Island, Washington. The proposed project includes shoreline and upland work on McNeil Island and at a location north of the Town of Steilacoom, and the laying of an electrical cable in the marine passage between McNeil Island and the Steilacoom site. The shoreline and upland work entails subtidal hydraulic trenching to embed the cable, and excavation and backfilling in the intertidal and uplands to install the cable and the associated electrical and fiber optic components.

As lead agency, the Department of Corrections submits the enclosed Environmental Checklist and Mitigated Determination of Non-Significance for your review and comment.

Comments will be received until 5:00 p.m., November 5, 2004. Please address all comments to the following:

Alana Hess, Environmental Project Manager  
Department of Corrections  
Capital Planning and Development  
P.O. Box 41112  
Olympia, Washington 98504-1112

The date of this action is October 22, 2004.

Sincerely,

Joseph D. Lehman  
Secretary  
Responsible Official

JDL:AH:rb  
Enclosure

*"Working Together for SAFE Communities"*

**SEPA**  
**MITIGATED DETERMINATION OF NON-SIGNIFICANCE**

**Description of Proposal:**

The Department of Corrections is proposing to install a new marine electrical cable to serve the McNeil Island Corrections Center and other state facilities on McNeil Island, Washington. The proposed project includes shoreline and upland work on McNeil Island and at a location north of the Town of Steilacoom, and the laying of an electrical cable in the marine passage between McNeil Island and the Steilacoom site. The shoreline and upland work entails subtidal hydraulic trenching to embed the cable, and excavation and backfilling in the intertidal and uplands to install the cable and the associated electrical and fiber optic components. A complete detailed description of this proposal is located on pages 4 through 13 of the attached environmental checklist.

**Proponent:** Washington State Department of Corrections

**Location of Proposal, including street address, if any:**

The project area is located in the Chambers Creek vicinity, north of the Town of Steilacoom (Township 20 North, Range 2 East, Section 48); in the Hyde Point area of McNeil Island (Township 20 North, Range 1 East, Sections 26 and 23); and in the Puget Sound passage between McNeil Island and Steilacoom, Pierce County, Washington. The corridor for the Steilacoom to McNeil Island cable will be centered approximately 500 feet to the northeast of the existing marine electrical cable.

**Lead Agency:** Washington State Department of Corrections

The lead agency for this proposal has determined that the proposal does not have a probable significant adverse impact on the environment with the following mitigation measures implemented:

- For the protection of federally listed fish species and forage fish species, project work below the mean high water line will be restricted to a timeframe beginning July 16, 2005 and through September 30, 2005.
- The contractor will be required to prepare and submit an Erosion Control Plan (ECP) for the Department of Corrections' review and approval, 14 days prior to the start of construction. This ECP will contain the appropriate project Best Management Practices for sediment and erosion control.
- Erosion control specific to the McNeil Island service road will involve placement of benetone chips into the cable trench and surfacing of the road with crushed rock on completion of construction.
- At the base of the McNeil Island service road, above mean high water, areas disturbed by construction will be stabilized with a native grass seed mix.
- The Department of Corrections will make monetary compensation to the Washington State Department of Natural Resources for unavoidable adverse impacts to geoduck beds as a result of construction of this project. The potential of salvage and/or relay of geoduck resources has been investigated and does not appear feasible at this time.
- Installation of the cable to a depth of four feet in subtidal geoduck beds will occur to prevent interference with future commercial geoduck harvesting.
- There will be no staging of construction material or equipment below the mean high water line.
- Construction equipment access to project areas below the mean high water line will be made only by way of barge or similar delivery vessel.

- On McNeil Island native transitional (marine to terrestrial) vegetation will be removed from the construction footprint, preserved, and replanted on completion of construction. In the event of salvaged plant mortality, the same or equivalent native plant species will be purchased and planted.
- Shoreline contours will be restored to as near pre-construction conditions as possible.
- Temporal disturbance of intertidal sediments within the construction footprint will be restored on both shorelines with the placement of fish habitat gravel.
- At the Steilacoom site, riprap that has fallen from the railway embankment within 30 feet of the cable trench centerline, will be removed from the intertidal area and placed back on the embankment.
- Driftwood on both shorelines will be removed from the construction footprint, preserved, and returned to as near original position as possible on completion of construction.
- The installation location for the pilings and cable signs will be positioned to reduce aesthetic impacts, and the cable signs will be sized to the minimum necessary to ensure adequate visibility. Neither the pilings nor the signs will be lighted.
- Mats, rubber-tired equipment or similar protective measures will be required for work in areas below the mean high water line.
- Monitoring will occur during all excavation work in the shorelines and uplands at both McNeil Island and Steilacoom to ensure the protection of historic and cultural materials. If the contractor finds any artifacts of historic or cultural significance, the materials will be left in place, work in the area will immediately cease, and the Department of Corrections and the Office of Archaeology and Historic Preservation will be notified immediately.

An environmental impact statement (EIS) is not required under RCW 43.21C.030. This decision was made after review of a complete environmental checklist, an analysis of the effectiveness of the mitigation measures, and other information on file with the lead agency. This information is available to the public on request.

- ☐ There is no comment period for the Mitigated Determination of Non-Significance (MDNS).
- ☒ This MDNS is issued under WAC 197-11-340. Comments must be received by 5:00 p.m., November 5, 2004.

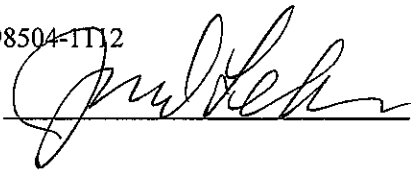
**Responsible official:** Joseph D. Lehman

**Position/Title:** Secretary

**Address:** P.O. Box 41112; Olympia, WA 98504-1112

**Date:** October 22, 2004

**Signature:**



**Assigned Contact:**

Alana Hess, Environmental Project Manager  
Department of Corrections  
Capital Planning and Development  
PO Box 41112  
Olympia, WA 98504-1112

- ☒ There is no agency appeal.

## ENVIRONMENTAL CHECKLIST

### A. BACKGROUND

**1. Name of the proposed project:**

McNeil Island Corrections Center Marine Electrical Cable Replacement Project

**2. Name of Applicant:**

Washington State Department of Corrections

**3. Address and telephone number of applicant and contact person:**

Alana Hess  
Environmental Project Manager  
Washington State Department of Corrections  
P.O. Box 41112  
Olympia, Washington 98504-1112  
Telephone: (360) 586-8739  
FAX: (360) 586-8723

**4. Date checklist prepared:**

October 14, 2004

**5. Agency requesting checklist:**

Washington State Department of Corrections

**6. Proposed timing or schedule (including phasing, if applicable):**

Construction in upland areas on McNeil Island and at Steilacoom will begin in July of 2005 with completion by October 2005. For protection of federally listed threatened marine species, work below the mean high water line and work to lay the marine cable will be restricted to a timeframe beginning July 16 and through September 30, 2005. This work window also serves to protect surf smelt and sand lance spawning areas at the Steilacoom project site in accordance with allowable work windows for these species as specified by the State of Washington Department of Fish & Wildlife (WDFW). Substantial completion of all components of the project is scheduled for November 2005. No phasing of this project is proposed.



7. **Are there plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**

No, although upland electrical system cables and/or associated appurtenances connected to the new marine cable may need to be replaced in the near future.

8. **List any environmental information that has been prepared, or will be prepared, directly related to this proposal:**

Geotechnical/Geological Evaluation Subtask of the McNeil Island Correctional Center Marine Cable Replacement Project, McNeil Island, Washington. In: McNeil Island Correction Center Marine Cable Replacement Project DOC Project No. 04-308 Routing Study and Biological Evaluation Final Report. Prepared by Milbor-Pita Associates, Inc. for D. Hittle & Associates, Inc., January 8, 2004.

Biological Evaluation Cable Crossing from Steilacoom to McNeil Island McNeil Island, Washington. Prepared by Pentec Environmental for D. Hittle & Associates, Inc. and the Department of Corrections, March 15, 2004.

Cultural Resources Assessment for the McNeil Island Correctional Center Cable Replacement Pierce County, Washington. Prepared by Northwest Archaeological Associates, Inc., the Department of Corrections Capital Planning & Development and D. Hittle & Associates, Inc., April 12, 2004.

McNeil Island Correction Center Marine Cable Replacement Project DOC Project No. 04-308 Design Development Final Report. Prepared by D. Hittle & Associates, Inc. for the Department of Corrections, May 2004.

McNeil Island Correction Center Marine Cable Replacement Project DOC Project No. 04-308 Field Investigation and Site Assessment. Prepared by D. Hittle & Associates, Inc. for the Department of Corrections, May 2004.

McNeil Island Correction Center Marine Cable Replacement Project DOC Project No. 04-308 Routing Study and Biological Evaluation Final Report. Prepared by D. Hittle & Associates, Inc. for the Department of Corrections, May 2004.

McNeil Island Correction Center Marine Cable Replacement Project DOC Project No. 04-308 Schematic Design Final Report. Prepared by D. Hittle & Associates, Inc. for the Department of Corrections, May 2004.

Biological Evaluation Addendum - 1 Response to Comments Cable Crossing from Steilacoom to McNeil Island Biological Evaluation (Corps Ref. No. 200400330). In: McNeil Island Correction Center Marine Cable Replacement Project DOC Project No. 04-308 Routing Study and Biological Evaluation Final

Report. Prepared by Pentec Environmental for D. Hittle & Associates, Inc. and the Department of Corrections, May 28, 2004.

Results of the McNeil Island Forage Fish Survey - Hype Point and Floyd Cove.  
Letter report prepared by Pentec Environmental for the Washington Department of Corrections, June 14, 2004.

Low-Tide Survey at Mouth of Chamber Creek, Marine Cable Replacement, McNeil Island Correction Center (MICC), DOC Project 04-308. Letter report prepared by Northwest Archaeological Associates, Inc., for the Department of Corrections and D. Hittle & Associates, Inc., September 10, 2004.

9. **Are there applications that are pending for governmental approvals of other proposals directly affecting the property covered by the proposal?**

No, not that are known.

10. **List any governmental approvals or permits that will be needed for the proposal:**

Road Access Permit (Town of Steilacoom)  
Application for Authorization to Use State-Owned Aquatic Lands (State of Washington Department of Natural Resources)  
Aids to Navigation/Local Notice to Mariners (United States Coast Guard)  
Electrical Plan Review & Inspection (Tacoma Public Utilities/Tacoma Power)  
Shoreline Management Act Permits (Town of Steilacoom; Pierce County)  
Grading Permit (Pierce County)  
Hydraulic Project Approval (Washington State Department of Fish & Wildlife)  
Section 106 (Native American Tribal Government Consultation)  
Section 10/Nationwide (U.S. Army Corps of Engineers)  
Section 404 (U.S. Army Corps of Engineers)  
Section 401 (Washington State Department of Ecology)

***Non-Governmental Approvals or Permits***

Application for Wire Line Crossing or Longitudinal (Burlington Northern Santa Fe Railway)

11. **Provide a brief, complete description of the proposal, including the proposed uses and the size of the project and site:**

***Project Summary***

The purpose of this project is to replace the aging and damaged existing marine electrical cable that serves the Department of Corrections (Department) McNeil

Island Corrections Center (MICC) by installing a new marine electrical cable from an area north of Steilacoom, across the Puget Sound passage to McNeil Island.

### ***Background and Project Need***

A marine electrical cable installed in 1984 between Steilacoom and McNeil Island provides for the electrical needs of the MICC - a 1,400-bed state prison operated by the Department, and a 268-bed sex offender Special Commitment Center operated by the Department of Social and Health Services (DSHS). Also served by this power source are approximately 54 residences, Correctional Industries buildings, and other Department and DSHS facilities.

The second failure of this cable, caused by damage to and failure of the cable insulation, occurred in November 2001, resulting in a formal declaration of emergency by the Department. Samples of the failed cable were sent to the manufacturer and an independent testing laboratory. Various defects and weakened conditions were noted in those examinations. Based on the age of the cable and test results, there is considerable concern that additional failures are likely to occur.

Although the island has backup emergency diesel generator power, a future outage could last 1 to 6 months or longer because of the time needed to accomplish repairs or replacement. These conditions represent significant public safety and security concerns due to the potential of emergency power failure during such a period. Furthermore, a future failure of the cable may be irreparable due to its weakened condition.

To avoid future emergencies, the Department has aggressively pursued funding to replace the cable with a new reliable electrical supply cable. Installation of a new cable will ensure continued facility security, a reduction in air pollution from emergency diesel generator operation, the ability to schedule construction work when adverse impacts to marine and other Endangered Species Act protected species can be minimized, and at a cost less than in emergency situations.

### **Cable Route & Design Alternatives**

Several cable route and other alternatives were considered. In general, the options reviewed were on-island power generation, delivery of power from overhead power lines, and delivery of power by marine and underground cables. These options and the process to analyze each option are described in detail in the project Routing Study, Schematic Design and Design Development reports (D. Hittle & Associates, Inc., May 2004). In general, alternatives were evaluated for avoidance of adverse environmental impacts, complexity, cost, extent of coordination with other agencies, power supply reliability, historic power supply alternatives, current electric utility infrastructure, and schedule. As each of these

factors for each alternative were evaluated, on-island generation, overhead power lines, and marine cable routes connecting McNeil Island to Ketron, Anderson, and Fox Islands were eliminated, and two feasible options for routing became apparent.

One of these options was a new underground power connection on the Key Peninsula near the Peninsula Light Company's Lake Bay substation to Pitt Passage (approximately 4 miles), a crossing under Pitt Passage by directional drilling (approximately 0.7 mile) connecting to Floyd Cove on McNeil Island, then installing new underground and overhead power lines across McNeil Island to the diesel generator building (approximately 3.6 miles). The second alternative - which is the proposed alternative - was the laying of a marine cable across the passage (approximately 3 miles) to landings north of Steilacoom near Chambers Creek and on McNeil Island in the Hyde Point area. Work below the mean high water line and upland work to connect to existing power supply and delivery systems is involved at each site.

These two options were then analyzed for adverse and unavoidable environmental impacts, initial cost, on-going cost, overall project complexity, technical risks, schedule and vulnerability to service interruptions. The Pitt Passage alternative was significantly more costly and represented no clear benefits from the perspective of reducing environmental impacts. Subsequently, the Pitt Passage alternative was abandoned and the Steilacoom to McNeil Island option was chosen as the preferred alternative.

### **Defining the Route of the Proposed New Steilacoom to McNeil Island Marine Cable**

Once the preferred alternative was chosen, the focus of the analysis was narrowed to define a 1,000-foot wide corridor within which a route to install the cable could be determined. This analysis considered five overall issues:

- The approximate route of the existing cable, historical information associated with the choice of this route, and the problems encountered in the use of different routes;
- The absence or presence of submarine features that could obstruct cable installation and/or potentially jeopardize the integrity of the cable;
- The absence or presence of, and potential impacts to, terrestrial and marine species and habitats overall including those protected by the Endangered Species Act;
- The engineering and technical aspects associated with installing a marine cable; and
- The presence or absence of cultural or historic resources that could be disturbed by cable installation.

The existing cable route and historical information, as well as the basic design requirements involved in engineering the installation and service connections for a marine cable provided a "starting point" to begin to define a corridor to install the cable. Setting the installation corridor at a width of 1,000 feet was made by way of "reasonable judgement." In other words, a corridor width was established within which it could be reasonably expected that a suitable route could be found without extending that corridor to an unreasonable width that would have represented a greater cost to analyze.

Existing shoreline and upland developments played a significant part in defining the corridor. For example, from an engineering perspective, established "delivery points" exist at both Steilacoom and McNeil Island which serve to collect the power from the service provider and deliver that power to the island facilities respectively. The new cable must transition from marine to upland installation in the vicinity of these facilities. The heavily armored marine cable cannot – and should not be from an engineering perspective – forced into extreme bends or turns. For the same reasons, it was necessary to locate a route for the cable along the sea floor passage that avoided features such as large rock outcrops, shoals or other areas where the cable may become "suspended" or unsupported by the seafloor. Cable suspension over too great a distance can cause sharp bends destroying the cable insulation. Tidal current impacts on a suspended cable can cause flexing and result in premature failure of the cable. Finally, the number of course changes of the cable-laying vessel should also be minimized.

There are also issues associated with ownership of properties through which the cable must pass, such as Burlington Northern Santa Fe Railway and an existing wastewater outfall. There is also a need to maintain a horizontal separation between the existing and new marine cables to enable repairs to one cable without damaging the other. Abandoned cables in the passage not associated with the MICC also need to be avoided.

Once all of the these factors potentially affecting the route of cable installation were assembled, the proposal was analyzed from the perspective of whether or not the cable could be routed within the 1,000-foot corridor without causing significant adverse environmental impacts.

A wide range of marine species and habitats were taken into consideration. For both shorelines, the presence and absence of surf smelt and sand lance spawning areas, eelgrass beds, geoduck beds, and macro algae occurrences were investigated. The species and their habitat that are protected under the Endangered Species Act (ESA) occur throughout the waters of Puget Sound and were also considered, but to an extent more so from the perspective of the ensuring the ability to schedule all work waterward of the mean higher high water line to occur only during allowed work windows timed for protection of these species.

All of these species and habitats were viewed collectively and comprehensively for a possible route within the 1,000-foot corridor with complete avoidance of adverse impacts as the goal. A Biological Evaluation (BE) was prepared (Pentec, May 2004) to formally assemble and analyze the information. In summary, it became clear that the cable could be aligned to avoid surf smelt and sand lance spawning areas, eelgrass beds, and macro algae, and that the work be scheduled within allowed work windows to reduce or eliminate impacts to the Endangered Species Act (ESA) species. For all species protected by the ESA that could potentially be impacted by the proposal, the findings of the BE was *may affect, but not likely to adversely affect*.

At both the McNeil Island and Steilacoom locations, impacts to geoducks are unavoidable. The geoducks near McNeil Island are commercially viable, whereas those located on the Steilacoom side are not considered commercially harvestable due to the species occurrence near a wastewater outfall.

### **Detailed Description of the Proposed Cable Alignment**

As described in the foregoing section, several factors have influenced selection of the marine cable installation route. This section contains the details of the specific route within the 1,000-foot corridor that was chosen. The description begins with a project overview that is followed by the details of the three major elements of the cable installation process:

- Construction within the shoreline and upland areas near Chambers Creek north of Steilacoom.
- Marine cable laying within the waters of Puget Sound in the passage between McNeil Island and Steilacoom.
- Construction within the shoreline and upland areas at Hyde Point on McNeil Island.

The *Project Overview* below describes common elements or components of the upland work and work within the shorelines as the cable is transitioned from marine to upland installation. The *Laying of the Marine Electrical Cable* describes the cable laying and subtidal embedment work to the point where this work meets the trenches excavated in the shorelines. Work in the shorelines and uplands are described in the *Steilacoom Upland & Shoreline Construction* and the *McNeil Island Upland & Shoreline Construction* sections. Drawings EH100, EH101, and EH104-EHG106 in Appendix A show the proposed cable route.

### **Project Overview**

It is anticipated that a backhoe or small excavator will be used for the majority of all trench excavation work - including work in the shorelines - and for installation of new pilings. All excavated materials will be stored in the immediate location of

the work areas, and either used for backfill if suitable or removed to an upland disposal location. All materials excavated in shorelines will be returned to the excavated trenches. The footprint of construction activity on the shorelines and in the upland is expected to be approximately 25 to 30 feet on either side of the trenches with equipment operation and sidecast (excavated material) considered.

Twelve new electrical and fiber optic vaults pre-cast, modular, and constructed of reinforced concrete will be delivered to the installation sites from the uplands. A small crane or cabling will be used to set the vaults into excavated pits. Construction vehicles and equipment will be moved to McNeil Island by way of the Steilacoom-McNeil Island barge and/or by contractor vessel. Existing roadways on McNeil Island will be used to access work areas above the mean higher high water line. On the Steilacoom side, permission from shoreline property owners for site access from and/or equipment staging in the uplands will be necessary.

A marine cable-laying barge assisted by tug vessels will lay the cable along a pre-determined route across the passage between McNeil Island and Steilacoom. The route will be maintained by global positioning controls within the barge. Once the barge is mobilized with the cable on board, it will be brought to either the McNeil Island or the Steilacoom location (depending on the location chosen to begin cable-laying) and anchored immediately off-shore through the use of "spuds" or jacks that extend from the barge. One end of the cable will then be spooled off the barge and floated with air bladders. A boat, divers, and/or a truck-mounted winch line will move the cable towards the shorelines. Sufficient cable will be spooled off to adequately reach the first upland vault.

The new marine cable will be a 15 kV class three-phase armored cable, approximately 3 to 4 inches in diameter. This cable will be of an extruded type and will not use oil as insulating material. The underwater crossing is about 3 miles long and at depths of over 550 feet. The cable will have fiber optic communication strands embedded within it. Weather permitting and with work continuing around the clock, two or three days will be needed to complete the cable laying.

To protect the cable from anchor and other damage as installation becomes shallower on approach to the uplands on both sides, and to transition the cable from marine to upland installation, a hydroplow, or a similar device, will be employed in the cable-laying work to cut the trenches to embed the cable on approach to both shorelines. The hydroplow will cut a trench and embed the cable simultaneously beginning at approximately the mean lower low water line and waterward a maximum depth of minus 70 feet near McNeil Island and the Steilacoom site. The cable will not be mechanically embedded in the seafloor below this depth.

The hydroplow will be deployed from the cable-laying barge, and using seawater, it will cut the trench either ahead of (as the cable is spooled off of the barge) or behind the cable (working backwards towards the barge after the cable is spooled off). Placement of the cable in line with the trench will be controlled mechanically by the cable-laying vessel, by boat and diver, and with the use of air bladders attached to the cable. The air bladders will be systematically detached from the cable to enable placement of the cable under its own weight into the trench. Cable embedment depth will be 4 feet.

The hydroplow fluidizes the bottom sediments, which allows the cable to sink to the bottom of the trench. The sediments displaced by the hydroplow settle over the cable shortly after the hydroplow passes. Hydroplow installation produces a slight ridge along the sides of the trench, and a slight depression in the center of the trench. Operation of the hydroplow will also result in the temporary suspension of sediments into the water column. Generally seafloor disturbance resulting from hydroplow operation is less than 2 feet in width with ridges on either side of the trench less than 6 inches in height. Tidal currents in shallow depths, and underlying currents at deeper depths should erase all of this "footprint" left by the hydroplow by redistributing disturbed sediments. The hydroplow trenches will interface with excavated trenches on both shorelines.

The cable to be installed within the shorelines and uplands at both McNeil Island and Steilacoom will also be three-phase and will either be directly buried or installed in a buried conduit. The fiber optic strands embedded in the armored marine cable will be separated from the electrical component of the cable at the terminus points of the armored marine cable. The fiber optic cables will be installed in separate buried conduit in the same trenches excavated for the electrical cable. One spare conduit for fiber optics will also be installed. These trenches will be approximately 3 feet in width and depth. Work on both shorelines will occur almost concurrently just prior to the in-water cable-laying work, and work in the lower shorelines will occur concurrently with the cable-laying work to prevent the trench from being filled with sediments while awaiting the cable to be brought ashore.

Rollers may be installed in the trenches excavated in the shorelines to minimize additional beach disturbance and prevent the cable from being abraded as it is pulled ashore. The cable will also be placed in cast iron split pipe in areas where damage resulting from suspension or exposure could occur. The cable may also be secured in the upper portion of the beach with buried metal anchors.

Pads will be installed on the shorelines as necessary to prevent excessive disturbance of beach materials by construction equipment. Excavated native beach sediments will be backfilled into the trench, and beach contours will be restored as closely as possible to the condition prior to the start of construction. Displaced driftwood and native plants will be replaced and replanted respectively



to as near the original positions as possible. All shoreline and upland work at both sites should be completed within a 30-day time period.

The existing marine cable will be left in place and remain connected to the electrical systems on McNeil Island and at Steilacoom.

#### *Laying the Marine Electrical Cable*

On the Steilacoom side, a need to avoid a wastewater outfall and a need to be south of a switch associated with the Burlington Northern Santa Fe (BNSF) Chambers Creek Bridge combined to align the cable as it is transitioned from marine to upland installation south of the outfall and north of the existing cable.

Moving towards McNeil Island and deeper water, the cable alignment will be adjusted slightly to the north to provide separation from the existing cable. This alignment will also position the cable between two gravel discontinuities at a depth of approximately 80 feet. These gravel areas differ from the surrounding sands and mud. The reasons for avoidance of these areas include the potential of the cable being abraded by the gravel, and also because these areas are anomalies in an otherwise consistent substrate. Anomalies may represent different tidal and/or current conditions that may be best avoided.

Proceeding west and slightly north, the cable alignment will be changed to parallel of the existing cable route near the northern boundary of the 1,000-foot corridor. The alignment will proceed down a steep slope from approximately 140 feet to 460 feet in depth providing good horizontal separation from the existing and avoiding a sand wave zone to the south. As with the gravel areas, sand waves are anomalies in comparison with surrounding substrate and are best avoided. Generally, high velocity water flow or a similar historic event(s) causes these waves.

As the alignment proceeds to the west and north, more anomalies occur including a stretch of sand waves, and mottled seafloor at a depth of approximately 500 feet that cannot be avoided. However, the orientation, amplitude, and wavelength of the sand and lack of sharp elevation changes in both features are unlikely to cause damage to the cable or cable suspension.

The route will then be adjusted to align with the northern most edge of another sand wave zone. Another feature, a rocky ridge that rises to a peak at Toliva Shoal, is encountered next, and the alignment of the cable will be routed to the south of this feature, again to avoid cable damage and suspension.

On the approach to McNeil Island, there is a steep rise up to the shoreline area. In this area at depths of between 500 and 200 feet, the route will be maintained south of an exposed bedding layer of soils and rocks that produce a stair step effect that

could cause significant cable suspensions. From a depth of 160 feet to the beach, the alignment follows a depression that is oriented towards the foot of the service road that extends from the shoreline area to the top of the hill. This sets the point where the new cable will be brought ashore on McNeil Island just slightly north of the existing cable, and aligns the cable with the road to the first set of vaults.

#### *McNeil Island Shoreline & Upland Construction*

On McNeil Island, beginning in the general area where the marine cable will approach the shoreline, a backhoe or small excavator will be used to temporarily relocate driftwood and excavate a trench for cable installation upland to an elevation of approximately 17 feet above sea level.

Excavation and laying the cable in the shoreline area will require crossing a natural berm or spit. Behind or shoreward of this berm in the vicinity of the mean higher high water line is the outlet and tidal inlet for a slough or saltmarsh that must also be crossed. Through the berm the cable will be laid approximately 6 to 10 feet deep. Encased in split pipe to protect the cable, the depth of installation beneath the tidal inlet will be approximately 3 feet.

At the 17-foot elevation a new power vault and switch and a new splice vault for the fiber optics components will be installed. The location for this equipment is just to the north of the existing splice vault that is at the foot of the existing service road.

Two pilings with cable crossing and warning signs will be installed at the base of the bluff on an artificial terrace north of the site of the new vault and above mean high water.

Proceeding up and facing the hill, the existing cable is located near the right side of the road. The new cable will be aligned near the center of the road. On reaching a sharp switchback in the road, another splice vault and a fiber optic vault will be installed to avoid a severe cable-bending radius.

From these vaults, the new cable continues up the road to and along the Coastal Road and under the existing cable to a location near an existing power switch cabinet at the top of the hill. At this point a third power vault with a padmounted switchgear device is installed and connections are made to the existing power distribution system that feeds the MICC generator building. Work at this location also includes re-routing and connection changes of the existing cable. The existing power switch cabinet will be removed. Another fiber optic vault will also be installed here. Completion of work at this location will enable tying the new cable into the McNeil Island power system.

Steilacoom Shoreline & Upland Construction

At the Steilacoom site just south of Chambers Creek, beginning in the general area where the marine cable will approach the shoreline, a backhoe or small excavator will be used to remove and temporarily relocate from the cable installation route driftwood and rock riprap waterward of the railway. Two pits will be excavated and two new steel pilings will be installed during a low tide at a location near the mean higher high water line at the waterward base of the rip rap slope abutting the railway embankment. These pilings will serve to mount a 3-foot by 3-foot cable crossing sign.

A trench and jacking pit will also be excavated in the shoreline on the west, or waterward, side of the BNSF tracks. From here a 12-inch diameter steel casing and the cable will be installed under the tracks by directional drilling.

Beyond these tracks, underground cable installation continues to establish a new "delivery point" for the Tacoma Public Utilities power source north of Chambers Creek Road. This delivery point will include installation of a power vault and padmounted switchgear, a power pole and riser, a metering cabinet, a 4-bay fiber optic cabinet mounted on a vault, and a 8-foot by 8-foot concrete pad for future fiber optics communications equipment use. The power cable and the fiber optic components are separated from combined encasement in the armored marine cable termination point, and facilities proposed for this site accommodate both components.

From the delivery point, the underground cable installation continues to another set of rail tracks and installation underneath the tracks with use of 12-inch steel casing, then on to a new power splice vault. The final component of work at this location is to remove the existing power cable from an overhead location and place that cable underground for connection in the new vault. This connection establishes the link between the existing cable and the power delivery location.

- 12. Location of the proposal. Provide sufficient information for a person to understand the precise location of the proposed project, including a street address if any, and section, township, and range. Provide a legal description, site plan, vicinity map, and topographical map, if reasonably available.**

The project area is located in the Chambers Creek vicinity north of Steilacoom (Township 20 North, Range 2 East, Section 48); in the Hyde Point area of McNeil Island (Township 20 North, Range 1 East, Sections 26 and 23); and in the Puget Sound passage between McNeil Island and Steilacoom, Pierce County, Washington. The center of the corridor within which the Steilacoom to McNeil Island cable will be sited is approximately 500 feet to the northeast of the existing marine power cable. The cover sheet and vicinity map (sheet EH100) in the

project drawings attached to this Checklist in Appendix A show the general geographic area of the project.

## **B. ENVIRONMENTAL ELEMENTS**

### **1. Earth**

#### **a. General description of the site (underline):**

flat (McNeil Island and Steilacoom) rolling, hilly, steep slopes (McNeil Island), mountainous, other: artificial fill slopes (McNeil Island and Steilacoom).

#### **b. What is the steepest slope on the site (approximate percent slope)?**

At the Steilacoom project site, the steepest slope is the artificial fill and riprap associated with the railway at approximately 50 to 60%. The embankment on the west side of Chambers Creek road is of similar slope. Other portions of the project area average less than 10%.

At the McNeil Island site, the steepest slope is the service road that is cut into the hillside and extends from the top of the bluff to the shoreline area. The approximate slope of this road is a maximum grade of 60%. A spit that impounds a tidal slough or saltmarsh is sloped at an estimated 25 to 35%. Other portions of the project area average less than 20%.

#### **c. What general types of soils are found on the site (for example clay, sand, gravel, peat, muck)? Specify the classification of agricultural soils and note any prime farmland.**

The U.S. Department of Agriculture, Soil Conservation Service, Soil Survey of Pierce County Area, Washington, contains no soil class data for any location on McNeil Island. Geologic mapping (Timothy J. Walsh, 1987) of the Hyde Point vicinity indicates that surficial material is landslide debris and pre-Fraser (glacial) sediments, undivided.

For both McNeil Island and Steilacoom, Milbor-Pita reported surficial soils of glacial and inter-glacial origin with bedrock at a depth of 400 to 500 feet. Soils at the Steilacoom site are reported to be of the Steilacoom Gravel unit (Milbor-Pita, 2004).

- d. **Are there any surface indications or a history of unstable soils in the immediate vicinity? If so, describe.**

No, not at the Steilacoom site. At the McNeil Island site, the steep slopes surrounding the service road show evidence of slope instability in the angles of trunk growth and buttressing present in mature deciduous and coniferous species. As noted in c. above, a landslide(s) has been mapped in the immediate vicinity of the project. However, no indication of any portion of the service road being unstable was found (Milbor-Pita, 2004).

- e. **Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate the source of the fill.**

The following are approximate estimates of excavation and fill associated with the proposal:

**Excavation**

***Subtidal, Shoreline and Upland Trenching***

Steilacoom tidal area (MHW<sup>1</sup> to 70-foot depth): 311.1 cubic yards  
McNeil tidal area (MHW to 70-foot depth): 103.7 cubic yards  
Steilacoom uplands (MHW to Tacoma Power meter): 26.7 cubic yards  
McNeil uplands (MHW to P4<sup>2</sup> vault): 591.1 cubic yards

***Fiber Optic and Electrical Vaults***

Fiber optic vaults (5): 17.8 cubic yards  
Electrical vaults (7): 49.1 cubic yards

***Railroad Borings***

Main rail line: 1.74 cubic yards  
Spur rail line: 1.25 cubic yards

**Total Estimated Excavation: 1,102.5 cubic yards**

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<sup>1</sup> MHW = Mean High Water.

<sup>2</sup> See drawing sheet EH101, McNeil Island Coastal Road Area.

### **Imported Fill Material**

#### ***Electrical Line & Fiber Optics Bedding Import Material<sup>3</sup>***

McNeil upland: 591.1 cubic yards  
Steilacoom upland: 26.7 cubic yards

#### ***Fish Habitat Mix Import Material<sup>4</sup>***

Steilacoom Beach: 2.22 cubic yards  
McNeil Beach: 9.25 cubic yards

#### ***McNeil Island Import Surfacing Material<sup>5</sup>***

Service Road: 133.3 cubic yards

#### **Total Estimated Imported Fill Material: 762.6 cubic yards**

The source of all fill material will be from an approved contractor-selected source.

**f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe:**

Yes, there is the potential for erosion in all upland areas of construction until disturbed areas can be stabilized. However, erosion is expected to be minimal and should occur only in the event of heavy rainfall or strong winds while construction activities are occurring.

For areas of construction in shorelines, it is expected that disturbed beach sediments will become suspended in the water column during at least one tidal cycle or until these sediments become stabilized by natural processes.

During construction in subtidal areas, sediments will be released into the water column. This disturbance will be temporary and confined to construction activities associated with cable embedment.

No erosion will occur as a result of use of the completed proposal.

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<sup>3</sup> Import material will equal material excavated from the trench if excavated material is unsuitable for use as backfill and/or bedding requirements for the fiber optics require backfilling of the trench completely with import material. If imported, the bedding material will be sand, pea gravel, or a similar material.

<sup>4</sup> Imported fish habitat mix will consist primarily of small gravels as specified by the WDFW.

<sup>5</sup> Import material will be 5/8 inch minus crushed rock surfacing.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example buildings or asphalt)?**

The proposal will not result in any new impervious surfaces with the exception of the surface area of 7 new electrical vaults, 5 new fiber optic vaults, and a 64 square foot concrete pad to be installed for future telecommunications use. The 12 new vaults will introduce an impervious surface area of 447 square feet. With the addition of the 64 square-foot concrete pad, the project will result in a total of 511 square feet of new impervious surface.

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:**

During the upland construction work, measures will be implemented to reduce and control erosion from construction areas until disturbed soils can be stabilized. These Best Management Practices (BMP) may include silt fencing, use of straw bales and other similar measures. The project specifications require that the contractor submit for approval an Erosion Control Plan prior to starting work. In general, the requirements for the plan will include implementation of BMPs that will contain and control erosion in all work areas and prevent sedimentation from entering waters.

Specific to the McNeil Island site where the cable will be installed in the steep slope of the service road, two measures will be taken to reduce and control erosion. First, as recommended by Milbor-Pita (January 2004), betonite chips will be placed into the trench at 15-foot intervals to prevent water migration along the trench line. Second, crushed rock surfacing will be used to stabilize disturbed soils on the surface of the road on completion of construction.

## **2. Air**

- a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial, wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities, if known.**

During construction, emissions will result from the operation of construction equipment, vehicles, and vessels. The quantity of emissions is not known. No emissions will result from the completed proposal.

- b. **Are there any off-site sources of emissions or odors that may affect the proposal? If so, generally describe.**

No.

- c. **Proposed measures to reduce or control emissions or other impacts to air, if any:**

All construction equipment, vehicles, and vessels will be expected to be equipped with lawful pollution control devices. No mitigation measures to reduce or control emissions are proposed on completion of construction due to the absence of impacts resulting from this proposal.

### 3. Water

a. **Surface:**

1. **Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, and wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.**

Yes, the marine passage of Puget Sound between McNeil Island and Steilacoom; Chambers Creek to the north of the Steilacoom site; and a saltmarsh or slough immediately adjacent to the McNeil Island site.

2. **Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

Yes. Work will occur over, in and immediately adjacent to all waters described in 3.a.1. above except Chambers Creek.

3. **Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

No fill or dredge material will be placed in or removed from surface waters or wetlands as a result of this project. Subtidal hydraulic trenching from depths of approximately 70 feet to the vicinity of mean lower low water on both shorelines will occur to embed the cable. This activity will result in temporary disturbance of subtidal sediments.



- 4. Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities, if known.**

No surface water withdrawals will occur. Surface water diversions will be limited to that necessary for erosion control, and temporary "blocking" of the saltmarsh or slough inlet and outlet should it become necessary during construction to reduce the potential of sedimentation when trenching across this inlet/outlet to install the cable.

- 5. Does the proposal lie within a 100-year flood plain? If so, note location on the site plan.**

Yes, the project area within the passage between and along the shorelines of both McNeil Island and Steilacoom are classified by the Federal Emergency Management as "Zone A" or areas prone to 100-year flood events. All other upland project areas are outside of this designation.

- 6. Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

No intentional or designed discharges of waste material to surface waters will result from this proposal. However, construction equipment failure or accident could result in discharge of petroleum based or other hazardous products to surface waters.

**b. Ground**

- 1. Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.**

No groundwater withdrawal or discharge to groundwater will occur.

- 2. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any. Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) is expected to serve.**

None. This proposal will not result in a discharge of waste materials into the ground.

**c. Water Runoff (including storm water)**

- 1. Describe the source of runoff (including storm water) and method of collection and disposal, if any (including quantities if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

The proposal will not result in any significant new sources of runoff. As described in B. 1. g. above, 12 new vaults and a new 64 square foot concrete pad will create 511 square feet of new impervious surfaces. Any runoff from these surfaces will infiltrate into local soils.

- 2. Could waste materials enter ground or surface waters? If so, generally describe.**

No waste materials will be contained within runoff resulting from the proposal.

**d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:**

During construction, mitigation measures to reduce and control surface, ground, and runoff impacts will be included in the Erosion Control Plan as described in B.1.h. above. On completion of construction, no mitigation measures are proposed to control surface, ground, or runoff impacts due to the absence of impacts resulting from the proposal.

**4. Plants**

**a. Underline the types of vegetation found on site: McNeil Island**

  X   **deciduous trees:** alder, big leaf maple (*Acer macrophyllum*),  
aspen, other:

  X   **evergreen trees:** fir, cedar, pine, other: Pacific madrone (*Arbutus menziesii*)

  X   **shrubs:** evergreen huckleberry (*Vaccinium ovatum*), Himalayan blackberry (*Rubus discolor*), scotch broom (*Cytisus scoparius*),

  X   **grass:** multiple species

       **pasture:**

       **crop or grain:**

\_\_\_\_\_ wet soil plants: cattail, buttercup, bullrush, skunk cabbage,  
other:

\_\_\_\_\_ water plants: water lily, eelgrass, milfoil, other:

X other types of vegetation: trailing blackberry (*Rubus ursinus*),  
thistle (*Cirsium sp.*), sword fern (*Polystichum munitum*), foxglove  
(*Digitalis purpurea*), trailing yellow violet (*Viola sempervirens*), holly,  
English ivy, dull Oregon grape (*Mahonia nervosa*), dune grass (*Elymus*  
*mollis*), mosses, bracken fern (*Pteridium aquilinum*), salal (*Gaultheria*  
*shallon*), and "pickleweed"

a. **Underline the types of vegetation found on site: Steilacoom**

X deciduous trees: alder, maple, aspen, other:

X evergreen trees: fir, cedar, pine, other:

X shrubs: Himalayan blackberry (*Rubus discolor*), scotch broom  
(*Cytisus scoparius*),

X grass: multiple species

\_\_\_\_\_ pasture:

\_\_\_\_\_ crop or grain:

\_\_\_\_\_ wet soil plants: cattail, buttercup, bullrush, skunk cabbage,  
other:

\_\_\_\_\_ water plants: water lily, eelgrass, milfoil, other:

X other types of vegetation: English ivy, non-native ornamentals,  
various weedy species

b. **What kind and amount of vegetation will be removed or altered?**

At both sites, grass and weedy species will be removed or altered. At the McNeil Island site, native "pickleweed" and dune grass (*Elymus mollis*) occur within the cable trench route and will be temporarily removed and relocated.

No removal of deciduous or coniferous species will be necessary at either site.

Eelgrass (*Zostera marina*) surveys were conducted at both the McNeil Island and Steilacoom project areas in accordance with the protocols of the Washington State Department of Fish & Wildlife (Pentec, March 15, 2004). No eelgrass occurs within the cable route.

**c. List threatened or endangered species known to be on or near the site.**

No threatened, endangered, or sensitive plant species are known to occur or were observed in the immediate vicinity of the project site on McNeil Island or the Steilacoom site.

**d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:**

Vegetation present at the Steilacoom site is limited to grass, weedy species, ornamentals, and invasives such as Scotch broom. Native transitional (marine to terrestrial) species and habitat are absent due to the railway riprap. On the McNeil side, the more natural upper shoreline features enable the presence of native pickleweed and dune grass as noted in b. above.

Mitigation to preserve the pickleweed and dune grass that occur at the McNeil Island site within the cable trench route will involve temporary removal, preservation and replanting on completion of construction. In the event of mortality of these salvaged species, purchase and planting of the same or comparable native species will occur.

Additional mitigation at the McNeil Island site will involve restoring disturbed soils at the base of the service road above mean high water with a native seed mix. This area is currently populated primarily by invasives.

## **5. Animals**

**a. Underline any birds and animals which have been observed on or near the site or are known to be on or near the site:**

### **McNeil Island**

**birds:** red tailed hawk, heron, bald eagle, songbirds, other: Canadian goose, pigeon, gull, crow, winter wren, song sparrow

**mammals:** blacktail deer, bear, elk, beaver, other: coyote, raccoon

**reptile:** lizard; snake

**amphibian:** frog

**fish:** bass, salmon, trout, herring, other: All marine fish species that are expected to occur in the southern Puget Sound basin.

**shellfish:** horse clam, butter clam, littleneck clam, geoduck

**Steilacoom**

**birds:** hawk, heron, eagle, songbirds, other: osprey

**mammals:** deer, bear, elk, beaver, other:

**reptiles:**

**amphibians:**

**fish:** bass, salmon, trout, herring, other: surf smelt (*Hypomesus pretiosus*), sand lance, and all marine fish species that are expected to occur in the southern Puget Sound basin.

**shellfish:** blue mussel, barnacle, limpet (*Ammodytes hexapterus*), geoduck

**b. List any threatened or endangered species known to be on or near the site.**

The Biological Evaluation prepared for this proposal (Pentec, 2004) identified four threatened species listed under the Endangered Species Act (ESA) occurring in and above the waters of Puget Sound where the project area is located: chinook salmon (*Oncorhynchus tshawytscha*), bull trout (*Salvelinus confluentus*), bald eagle (*Haliaeetus leucocephalus*), and marbled murrelet (*Brachyramphus marmoratus*). In addition, coho salmon (*Oncorhynchus kisutch*), a candidate for ESA listing, also occurs in the project area.

Critical habitat for chinook salmon includes all marine, estuarine, and river reaches accessible by these species. Therefore the project area includes chinook salmon critical habitat. Federal designation of critical habitat for both bull trout and coho salmon is currently pending. Critical habitat for bald eagles - as defined by the presence of trees large enough to support roosting or nesting - occur within the project area.

Essential Fish Habitat (EFH) has been established in Puget Sound for several groundfish, coastal pelagic, and salmonid species. Chinook and coho salmon, which have designated EFH, are known to exist in the project area. Some or all of the other species with designated EFH may occur in the project area.

The Washington State Department of Fish & Wildlife, Priority Habitats & Species reports show surf smelt spawning areas within the project area at the Steilacoom site. Sand lance spawning areas are also present in the vicinity but appear to occur south of the project site. Priority anadromous and other fish presence are shown as occurring in Chambers Creek north of the project site. Finally, subtidal geoducks are mapped as present

offshore - in the path of the cable route near the Steilacoom site, but terminating south of the cable route near the McNeil Island site.

Bald eagle nest sites on McNeil Island are approximately 1.5 to 2 miles north of the project site. For the Steilacoom site, the nearest bald eagle nest is approximately 2.5 miles away along the southwest shore of Steilacoom Lake.

No marbled murrelet nesting sites are known within the project area, although the project consultant team recently reported the siting of one individual foraging near McNeil Island.

**c. Is the site part of a migration route? If so, explain.**

Yes. The project area is located within the Pacific Flyway, one of the four principal north-south migration routes for North American birds. The Pacific Flyway encompasses the entire Puget Sound basin.

Adult salmon migrate past both shores annually. Juvenile salmonids migrating outbound from Chambers Creek may occur in the nearshore areas of the Steilacoom project site. There are no perennial streams on the east side of McNeil Island that salmonid species are known to use, so the occurrence of outbound migratory salmonids is not as likely as at Steilacoom. By species, chinook salmon may migrate along the shoreline of Steilacoom and possibly McNeil Island. Coho salmon are known to occur in Chambers Creek near the Steilacoom project site. Bull trout are not known to occur at either project site.

**d. Proposed measures to preserve or enhance wildlife, if any:**

The determination in the Biological Evaluation (BE) of the potential impacts of the proposal on the bald eagle and the marbled murrelet was *may affect, but is not likely to directly or indirectly adversely affect*. For bull trout, the BE determination was *may affect, but is not likely to adversely affect*. The South Puget Sound area is not known to contain the high elevation spawning habitat used by the bull trout, therefore this species is not expected to occur in the project area. For chinook salmon, the *may affect, but is not likely to adversely affect* determination was made. If coho salmon are listed, the same the *may affect, but is not likely to adversely affect* determination will apply.

With work occurring only during the allowed work window of July 16 to September 30, the Corps of Engineers has issued a *may affect, not likely to adversely affect* determination for chinook salmon, bull trout, bald eagle and marbled murrelet. The Corps has also stated that the project would

impact approximately 6,000 square feet of Essential Fish Habitat but *will not adversely affect* this habitat for federally managed fisheries in Washington waters. The affects determinations are currently in formal consultation status with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service.

The mitigation to reduce adverse impacts to ESA protected fish species will be to limit construction activity below the mean high water line to only the allowable work window of July 16 to September 30.

Surf smelt and sand lance spawning areas are present at or in the immediate vicinity of the Steilacoom project site. These species are not present at the McNeil site. Smelt and lance provide food for juvenile and adult salmonid species during their nearshore marine residence periods. Mitigation to reduce adverse impacts to these species will be to restrict work to only the allowed work windows for these species of March 2 to October 14 for sand lance and May 1 to September 30 for surf smelt. Another mitigation measure to restore the temporal disturbance to fish habitat caused by trenching in the intertidal area will involve importing and placing fish habitat gravel. Additional mitigation measures to be implemented are the replacement of any displaced driftwood and the gathering of displaced riprap along the shoreline at the Steilacoom site for replacement on the riprap embankment of the railway. Mitigation efforts involving gravel, driftwood and riprap recovery will be confined to the footprint of construction activity.

The project will adversely impact geoduck shellfish beds. Mitigation in the form of monetary compensation to the Washington State Department of Natural Resources by the Department of Corrections will be required. In addition, the project specifications require the contractor to embed the cable to a depth of 4 feet in subtidal areas. Mitigating the cable presence by burying it to this depth will prevent future interference to commercial geoduck harvesting.

## **6. Energy and Natural Resources**

- a. What kinds of energy (electric, natural gas, oil, wood, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.**

The proposal is to repair a significant component (marine cable) of an existing electrical system. No new energy sources will be required for the completed proposal.

- b. **Would the project affect the potential use of solar energy by adjacent properties? If so, generally describe.**

No.

- c. **What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:**

The existing marine cable has a capacity of 203 amps. Although the new marine cable is capable of carrying a much greater load, the design is still based on the 203-amp demand since no increase in electrical use is expected to result from this proposal. The advantage of installing a higher amp capacity cable than required by demand not only ensures the ability to increase capacity should this become necessary in the future, but provides for energy efficiency by reducing voltage loss.

## **7. Environmental Health**

- a. **Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire, explosion, spills, or hazardous waste that could occur as a result of this proposal? If so, describe.**

No risk of exposure, fire, explosion, or hazardous waste will result from this proposal. During construction, petroleum spills could result from construction vessels, vehicles, and equipment. Post-construction, the risk of spills is limited to the insulating petroleum product encased in the electrical switchgear components. Traditionally, switchgear-insulating material is a petroleum based transformer oil although gas insulation material is also available. There are a total of 3 new switchgear cabinets, 1 on McNeil and 2 at the Steilacoom site. Each cabinet will contain approximately 170 gallons of oil or gas insulating material.

1. **Describe special emergency services that might be required.**

None.

2. **Proposed measures to reduce or control environmental health hazards, if any:**

The project specifications require the contractor to be prepared to respond, meaning prevention, reporting, containment, and cleanup, in the event of a spill. An incident after completion of construction that would cause a breach in the switchgear cabinets and a subsequent release is extremely unlikely due to the protected installation locations. Therefore, no



post-construction mitigation measures are proposed to reduce or control environmental health hazards.

**b. Noise**

**1. What types of noise exist in the area that may affect your project (for example: traffic, equipment operation, other)?**

No existing noise will affect the project. Existing noise sources include commercial, recreational, and ferry traffic.

**2. What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.**

On a short-term basis during construction, it is expected that an increase in noise will occur as a result of operation of construction equipment, vehicles, and vessels, as well as equipment transportation and construction vehicle ingress and egress from the project area on a daily basis. Noise from construction activities is expected to occur during daylight hours on weekdays, although work may occur during the night hours and/or on the weekends. The cable-laying vessel may operate 24 hours per day until installation is complete. Noise from this vessel should not exceed the noise levels from other large vessels that use the project waterways on a regular basis. No long-term noise will result from the completed project.

**3. Proposed measures to reduce or control noise impacts, if any.**

No mitigation measures are proposed to control noise impacts due to the absence of significant impacts resulting from the proposal.

**8. Land and Shoreline Use**

**a. What is the current use of the site and adjacent properties?**

McNeil Island is jointly managed by the Department of Corrections and the Department of Fish and Wildlife as a correctional facility and wildlife preserve respectively. At the project site on McNeil there is no use with the exception of the service road and the existing electrical system components. The Steilacoom project area is primarily used for rail transportation, with a marina, public roadways, and a park nearby.

**b. Has the site been used for agriculture? If so, describe.**

No, not at either site that is known.

**c. Describe any structures on the site.**

At the McNeil location, the existing electrical system components including power poles, lines, vaults and pilings are present. At Steilacoom are the BNSF rail lines, paved public roadways, the railroad Bridge Tender's house, shoreline commercial developments, and a marina.

**d. Will any structures be demolished? If so, what?**

No, the proposal does not include a removal or demolition component with regards to any of the existing electrical facilities or associated appurtenances with the exception of removal of one existing switch cabinet at the top of the bluff on McNeil Island. Electrical equipment that will be decommissioned as a result of this proposal may be removed or abandoned in place.

**d. What is the current zoning classification of the site?**

Shoreline Commercial and Quasi-Public (Steilacoom, Town of Steilacoom designation<sup>6</sup>).

Rural (Pierce County, McNeil Island project site designation).

**f. What is the current comprehensive plan designation of the site?**

Commercial/Recreation (Town of Steilacoom, Steilacoom project site designation).

Rural 40 (Pierce County, McNeil Island project site designation).

**g. If applicable, what is the current shoreline master program designation of the site?**

Urban (Town of Steilacoom, Steilacoom project site designation).

Natural (Pierce County, McNeil Island project site designation).

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<sup>6</sup> The dividing line between the two shoreline designations is the fence that surrounds the Bridge Tender house. Within this fence, the designation is Shoreline Commercial - outside of the fence the designation is Quasi-Public. The project footprint will involve both designations.

- h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.**

No portion of the project area either at McNeil Island or Steilacoom has been designated as environmentally sensitive or as a critical area by the Town of Steilacoom or Pierce County.

- i. Approximately how many people would reside or work in the completed project?**

None. No residences or work areas will result from the completed project.

- j. Approximately how many people would the completed project displace?**

None.

- k. Proposed measures to avoid or reduce displacement impacts, if any:**

No mitigation measures are proposed to avoid or reduce displacement impacts due to the absence of impacts resulting from this proposal.

- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:**

The Town of Steilacoom and Pierce County have jurisdictional authority over land use within their boundaries. All necessary permits and approvals for the proposal will be obtained from both governments.

## **9. Housing**

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.**

No housing units are proposed as part of the project.

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.**

No housing units will be eliminated as a result of this project.

- c. Proposed measures to reduce or control housing impacts, if any.**

No measures to reduce or control housing impacts are proposed due to the absence of impacts resulting from this proposal.

## 10. Aesthetics

- a. **What is the tallest height of any of the proposed structure(s), not including antennas? What is the principal exterior building material(s) proposed?**

The following aboveground structures proposed:

- Four pilings (2 each at the McNeil Island and Steilacoom sites) with 2 mounted signs on each pair of pilings. The signs will be 3-foot square "Cable Crossing" Aid to Navigation Day Mark signs, and 3-foot 6-inch square danger, high voltage, underground cable with the contact number for electrical cable locate in the event of the need for future excavation on an emergency or maintenance basis by the Department, or by others such as the BNSF railroad, the Town of Steilacoom, Pierce County, Tacoma Public Utilities or Tacoma Power. This sign will also identify the property owners.

The piling material will be steel, concrete, or reinforced plastic, and the signs will be metal. The height of the pilings will be approximately 10 to 20 feet above grade, and will be installed above the mean high water line on an artificial terrace within the 200-foot shoreline area at the McNeil Island site, and near the mean high water line at the waterward base of the railway riprap at the Steilacoom site.

- At the Steilacoom site upland of the railroad tracks, two aboveground pad-mounted electrical switchgear cabinets mounted on vaults and a fiber optic 4-bay telecommunications cabinet mounted on a vault will be installed within the 200-foot shoreline area. The maximum height of these vaults is expected not to exceed 5 feet.
- At the McNeil site, one aboveground pad-mounted electrical switchgear cabinet mounted on a vault with a maximum expected height of 5 feet will be installed within the 200-foot shoreline area. The fiber optic splice vault also in the shoreline will be below grade. Upland (outside of the 200-foot shoreline area) installations are an aboveground electrical splice vault at the switchback in the service road, and an aboveground electrical pad-mounted switchgear cabinet mounted on a vault to be installed at the top of the hill adjacent to the coastal road. As with the other described cabinets, the height should not exceed 5 feet. All aboveground cabinets will be constructed of green or tan-coated metal.

**b. What views in the immediate vicinity would be altered or obstructed?**

Views in the immediate vicinity at both sites would be slightly altered with the installation of electrical and fiber optic vaults, pilings, and the signs described in 10.a. above. The pilings and the signs will be the most visible components and most visible to vessel traffic. No views will be obstructed.

**c. Proposed measures to reduce aesthetic impacts, if any:**

Mitigation of aesthetic impacts needs to be balanced with the need for visibility of the navigational and warning signs. All possible sites for the pilings and signs have been identified at both sites. The locations chosen as described in a. above represent the best options to preserve sign visibility while preventing installation of the pilings any further waterward of the mean high water line than necessary. The cable signs will be sized to the minimum necessary while still preserving visibility. Neither the pilings nor the signs will be lighted.

**11. Light and Glare**

**a. What type of light or glare will the proposal produce? What time of day would it mainly occur?**

No lighting is proposed as part of this project.

**b. Could light or glare from the finished project be a safety hazard or interfere with views?**

Not applicable.

**c. What existing off-site sources of light or glare may affect your proposal?**

None.

**d. Proposed measures to reduce or control light and glare impacts, if any:**

No mitigation measures are proposed to reduce or control light and glare impacts due to the absence of impacts resulting from this proposal.

## 12. Recreation

- a. **What designated and informal recreational opportunities are in the immediate vicinity?**

Recreational boaters use the Puget Sound passage between McNeil Island and Steilacoom. Access is restricted to McNeil Island for security reasons preventing recreational use of the island. South of the project site near Steilacoom, the Town of Steilacoom's Sunrise Beach Park provides users with various recreational opportunities including diving, picnicking, beachcombing, and similar activities. Access is restricted in the immediate vicinity of the project site in the beach and upland areas due to an active railway.

- b. **Would the proposed project displace any existing recreational uses? If so, describe.**

No, with the exception of possible temporary interference in recreational boating activities during installation of the cable across the passage.

- c. **Proposed measures to reduce or control impacts on recreation, including recreational opportunities to be provided by the project or applicant, if any:**

No mitigation measures to reduce or control impacts on recreation uses or opportunities are proposed due to the absence of impacts resulting from this proposal. The Aid to Navigation/Local Notice to Mariners authorization from the Coast Guard may impose conditions on the activity of the cable-laying vessel which will be strictly complied with irrespective of potential impacts on recreation.

## 13. Historic and Cultural Preservation

- a. **Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.**

Yes. McNeil Island has been nominated to the National Register of Historic Places due to the presence of prehistoric sites. Contractual provisions obligate the state to protect these sites by restricting state use, public access, monitoring island erosion, and providing for professional archaeological evaluation of proposed facilities development involving ground disturbance (Northwest Archaeological Associates, Inc. 2004). No other places or objects listed on or proposed for national, state, or local

preservation records are known to be on or next to any portion of the project area.

- b. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site.**

Northwest Archaeological Associates, Inc. performed archaeological surveys of the project areas at both the Steilacoom and McNeil locations in March of 2004 and on July 2, 2004.

Results of the March survey found no items or evidence of cultural materials at either the McNeil Island or the Steilacoom project sites. The findings reported that the proposed route for cable installation at both locations will cross areas of artificial fill and recently formed accretionary beach features. No further investigations were recommended for the McNeil Island site. For the Steilacoom site, a recommendation was made that a visual investigation be conducted during a lower tidal cycle. This investigation was conducted on July 2, 2004, with no findings of items or evidence of cultural materials.

- c. Proposed measures to reduce or control impacts, if any:**

Mitigation to reduce and control impacts at both the McNeil Island and Steilacoom sites will involve monitoring during all ground-disturbing activities although discovery of any cultural materials is not anticipated.

Additional mitigation will require that if any items of historical or cultural significance are encountered during construction at any location within the project area, work will cease at that location, and the Department's Environmental Project Manager and the State of Washington Office of Archaeology and Historic Preservation will be contacted immediately.

#### **14. Transportation**

- a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.**

McNeil Island is served only by a passenger ferry and a barge owned by the Department. A portion of the project site in the beach area at the McNeil Island location can be accessed by an existing service road. Chambers Creek Road is immediately adjacent to the Steilacoom site. The project area that involves BNSF property upland of the railway may be

accessed by way of the storage facility or marina property which are served by Chambers Creek Road. Existing accesses will serve all project areas.

- b. Is the site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?**

Neither McNeil Island nor the project area near Steilacoom is served by public transit. The Department does provide passenger ferry service for family members and other authorized inmate visitors at the MICC and DSHS facilities. Authorized vendors and service providers also use the passenger ferry.

- c. How many parking spaces would the completed project have? How many would the project eliminate?**

The project will not create new nor eliminate existing parking spaces.

- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).**

No.

- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

Yes. During construction only, activity will occur in the immediate vicinity of the BNSF railway at the Steilacoom location, and is expected to use waterways to transport (by barge or similar vessel) any necessary construction supplies and/or equipment to and from McNeil Island. Cable laying construction work will use and occur in the immediate vicinity of water transportation routes.

- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.**

None. The completed project will not result in a change in the existing volume or pattern of vehicular trips.

- g. Proposed measures to reduce or control transportation impacts, if any:**

No mitigation measures are proposed to reduce or control transportation impacts due to the absence of impacts resulting from this proposal. Any



potential temporary impacts that may result to marine traffic during cable laying activity will be managed in accordance with Coast Guard rules.

### 15. Public Services

- a. **Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.**

No.

- b. **Proposed measures to reduce or control direct impacts on public services, if any:**

No mitigation measures are proposed to reduce or control impacts on public services due to the absence of impacts resulting from this proposal.

### 16. Utilities

- a. **Underline utilities currently available at the site:**

electricity (both sites), natural gas, water, refuse service, telephone, sanitary sewer, septic systems, cable, propane, other:

- b. **Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

No new utilities or service providers will result from this project. The proposal is to repair the existing electrical system serving McNeil Island. The utility providing the electrical service is Tacoma Power/Tacoma Public Utilities. Methodology for construction has been described elsewhere in this Checklist.

### C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: \_\_\_\_\_

Date Submitted: October 14, 2004

## REFERENCES

Biological Evaluation Addendum - 1 Response to Comments Cable Crossing from Steilacoom to McNeil Island Biological Evaluation (Corps Ref. No. 200400330). In: McNeil Island Correction Center Marine Cable Replacement Project DOC Project No. 04-308 Routing Study and Biological Evaluation Final Report. Houghton, Jon, Pentec Environmental, Edmonds, Washington. Prepared for the Washington State Department of Corrections Capital Planning & Development and D. Hittle & Associates, Inc., Engineers and Consultants, May 28, 2004.

Biological Evaluation Cable Crossing from Steilacoom to McNeil Island McNeil Island, Washington. Pentec Environmental, Edmonds, Washington. Prepared for D. Hittle & Associates, Inc. and the Washington State Department of Corrections, March 15, 2004.

Cultural Resources Assessment for the McNeil Island Correctional Center Cable Replacement Pierce County, Washington. Prepared by Northwest Archaeological Associates, Inc., Seattle, Washington, for the Washington State Department of Corrections Capital Planning & Development and D. Hittle & Associates, Inc. Engineers and Consultants, April 12, 2004.

Geologic Map of the South Half of the Tacoma Quadrangle, Washington. Compiled by Timothy J. Walsh, Washington State Department of Natural Resources, 1987.

Geotechnical/Geological Evaluation Subtask of the McNeil Island Correctional Center Marine Cable Replacement Project, McNeil Island, Washington. In: McNeil Island Correction Center Marine Cable Replacement Project DOC Project No. 04-308 Routing Study and Biological Evaluation Final Report. Prepared by Milbor-Pita Associates, Inc. for D. Hittle & Associates, Inc. Engineers and Consultants, January 8, 2004.

Low-Tide Survey at Mouth of Chamber Creek, Marine Cable Replacement, McNeil Island Correction Center (MICC), DOC Project 04-308. Prepared by Charles M. Hodges, Northwest Archaeological Associates, Inc., Seattle, Washington, for the Washington State Department of Corrections Capital Planning & Development and D. Hittle & Associates, Inc. Engineers and Consultants. Letter report, September 10, 2004.

McNeil Island Correction Center Marine Cable Replacement Project DOC Project No. 04-308 Design Development Final Report. Prepared for the Washington State Department of Corrections Capital Planning & Development by D. Hittle & Associates, Inc., Engineers and Consultants, May 2004.

McNeil Island Correction Center Marine Cable Replacement Project DOC Project No. 04-308 Field Investigation and Site Assessment. Prepared for the Washington State Department of Corrections Capital Planning & Development by D. Hittle & Associates, Inc. Engineers and Consultants, May 2004.

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McNeil Island Correction Center Marine Cable Replacement Project DOC Project No. 04-308 Schematic Design Final Report. Prepared for the Washington State Department of Corrections Capital Planning & Development by D. Hittle & Associates, Inc. Engineers and Consultants, May 2004.

Results of the McNeil Island Forage Fish Survey - Hype Point and Floyd Cove. Prepared for the Washington State Department of Corrections by Jim Starkes and Jon Houghton, Pentec Environmental, Edmonds Washington. Letter report, June 14, 2004.

**APPENDIX A**  
**PROJECT DRAWINGS**